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SEAWALL CONSTRUCTION LAWS IN EAST COAST STATES

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You asked for information about seawall construction requirements in nine east coast states.

SUMMARY

This report provides an overview of primary coastal area laws, regulations, and policies that impact seawall (and other forms of structural shoreline protection) construction in nine east coast states: Connecticut, Maryland, Massachusetts, New Jersey, New York, North Carolina, South Carolina, Rhode Island, and Virginia.

Most of the states prohibit constructing or repairing erosion control structures under certain circumstances, with North and South Carolina appearing to be the most restrictive. They all limit construction or repairs by requiring permits and imposing certain standards. North Carolina generally prohibits permanent erosion control structures in the shoreline, allowing only sandbags as temporary structures. South Carolina prohibits new structural erosion control measures unless it protects an existing public highway.

Most of these states restrict using structural erosion prevention methods, including seawalls, and prefer using nonstructural ones, such as vegetative stabilization, beach nourishment, slope grading, or building

relocation. Some states expressly encourage “living shorelines,” which are nonstructural shoreline stabilization techniques that use natural habitat elements to protect shorelines from erosion and provide critical habitat for wildlife. Other states allow structural methods to be used only after considering nonstructural alternatives. Some states consider whether the structural methods are necessary or will minimize or prevent adverse impacts such as erosion. Connecticut allows constructing seawalls and similar structures to protect inhabited structures, water-dependent uses, and infrastructure facilities, under certain conditions.

The following 1999 [Virginia Institute of Marine Science](http://web.vims.edu/physical/research/shoreline/docs/ShorelineErosionInCBay.pdf) (College of William and Mary) publication describes and illustrates seawalls, bulkheads, revetments, and groins, among other structures (see pages 24-30):
<http://web.vims.edu/physical/research/shoreline/docs/ShorelineErosionInCBay.pdf>.

CONNECTICUT

Coastal Management Act

Connecticut’s Coastal Management Act (CMA) establishes standards by which all activities, including seawall construction, within the coastal zone may be reviewed by state and municipal authorities. It includes an extensive list of legislative goals and policies and identifies 14 coastal resource categories to be considered in coastal planning.

The act authorizes municipalities to adopt municipal coastal programs that are consistent with the state's objectives and policies. It also requires towns to review plans for developing within the coastal boundary or landward of the mean high water mark (“coastal site plans”) submitted to the town zoning board, planning commission, or zoning board of appeals. Proposed activities must be consistent with CMA policies. An overview of the state's coastal management program is available at this link:

http://www.ct.gov/dep/cwp/view.asp?a=2705&q=323536&depNav_GID=1622&pp=12&n=1.

Shoreline Flood and Erosion Control Structures

The Department of Energy and Environmental Protection (DEEP) has direct regulatory authority over construction or development activities in tidal wetlands or waterward of the high tide line. Anyone proposing to conduct certain activities such as excavation, dredging, or building certain structures in a tidal wetland must apply for a permit from DEEP

(CGS § [22a-32](#)). A permit is also required for anyone proposing to dredge, fill, obstruct, encroach, erect, or maintain any structure or perform work incidental to such activities waterward of the high tide line in state tidal, coastal, or navigable waters (CGS § [22a-361](#)). Applicants seeking to conduct activities in these areas must show that the activity is consistent with CMA's goals and policies (CGS § [22a-98](#)).

By law, "shoreline flood and erosion control structures" are structures that control flooding or erosion from tidal, coastal, or navigable waters. They include breakwaters, bulkheads, groins, jetties, seawalls, and rocks, among other things. A coastal site plan must be filed with the municipal zoning commission to determine whether a proposed shoreline flood and erosion control structure conforms with the municipality's zoning regulations, CMA, and applicable DEEP permit requirements (CGS § [22a-109](#)).

Coastal site plans for seawalls and other structures must show that the activity is consistent with CMA's goals and policies, which include, among other things:

1. discouraging uses that do not allow continued natural erosion rates and disapproving uses that accelerate slope erosion (CGS § [22a-92\(b\)\(2\)\(A\)](#));
2. preserving natural beach systems to provide critical wildlife habitat, sand supply, a coastal flooding and erosion buffer, and recreational opportunities (CGS § [22a-92\(b\)\(2\)\(C\)](#));
3. promoting nonstructural solutions to flood and erosion problems except when structural alternatives are unavoidable and necessary to protect infrastructure, water-dependent uses, or homes built before 1980 (CGS § [22a-92\(b\)\(2\)\(F\)](#)); and
4. maintaining the natural relationship between eroding and depositional coastal landforms and minimizing the adverse effects of erosion and sedimentation on coastal land uses by promoting nonstructural solutions (CGS § [22a-92\(b\)\(2\)\(J\)](#)).

Under CMA policy, a shoreline flood and erosion control structure to protect an inhabited structure built prior to the CMA's implementation, water-dependent use (e.g., marinas), or infrastructure facility is allowed when (1) it is necessary and unavoidable, (2) there is no alternative with less environmental impact, and (3) all reasonable mitigation measures to minimize adverse impacts have been tried (CGS § [22a-92\(b\)\(2\)\(J\)](#)). Nonstructural alternatives include relocation or elevation of at-risk

buildings, vegetation stabilization, dune enhancement or creation, and temporary sandbag placement. A Coastal Management Manual to guide coastal land use agents, boards, commissions, developers, consultants, and individuals in understanding how to apply CMA standards and policies is available at:

<http://www.ct.gov/dep/cwp/view.asp?A=2705&Q=323814>.

General Permit for Seawall Repair

In addition to individual structure permits issued directly to an applicant, DEEP issues [general permits](#) for similar minor activities by one or more applicants, including one for [minor seawall repair](#). This permit allows repairs to an existing legal or authorized seawall in areas waterward of the high tide line or in tidal wetlands. Permitted repair work includes patching concrete, repointing mortar between stone, resetting fallen stones, and applying a skim coat to the seawall face. A permittee is not required to register the activity with DEEP to begin work allowed by the permit.

MARYLAND

Maryland law generally prohibits constructing or placing permanent structures within a statutorily-defined “Beach Erosion Control District” to allow for shore erosion and sediment control and storm protection, but certain approved “shore erosion control projects” are exempt (Md. Code Ann. Nat. Res. §§ 8-1102 and 8-1105.1). These projects are a “competently designed work project, which may include but is not limited to erection or placement of bulkheads, groins, or other erosion control devices, and measures required to stabilize waterside, shorelines, and banks” (Md. Code Ann. Nat. Res. § 8-1001).

Further, the [Living Shoreline Protection Act of 2008](#) declares “living shorelines” the preferred method of shore protection. The act requires erosion protection improvements to consist of nonstructural shoreline stabilization methods except in areas (1) designated as appropriate for structural methods and (2) where it is shown that nonstructural methods are infeasible due to excessive erosion, heavy tides, or an area being too narrow for such methods (Md. Code Ann. Env. §§ 16-201 and 8-1808.11). The law provides a waiver process for obtaining an exemption.

Maryland [regulations](#) require a specific order of preference to be followed when selecting a shoreline stabilization method (Md. Code Regs. 26.24.04.01):

1. No action

2. Relocation of threatened structures
3. Nonstructural stabilization (“living shorelines”) including beach nourishment, slope grading, and marsh creation
4. Shoreline revetments
5. Offshore breakwaters
6. Groins
7. Bulkheads (similar to seawalls) for repairs.

Shore erosion control projects may not be allowed if: (1) there is no evidence of erosion; (2) existing tidal wetlands serve as an adequate buffer; or (3) adjacent properties, navigation, threatened or endangered species, or oyster bars or leases may be adversely affected (Md. Code Regs. 26.24.04.01).

Individual landowners, municipalities, and counties may apply for grants or interest-free loans for projects designed to control shore erosion (<http://www.mde.maryland.gov/programs/water/wetlandsandwaterways/documents/www.mde.state.md.us/assets/document/wetlandswaterways/shoreerostext.pdf>).

MASSACHUSETTS

In Massachusetts, the Department of Environmental Protection (DEP) [regulates](#) coastal or shoreline engineering structures that protect inland or upland structures from the effects of sediment transport processes. These structures include breakwaters, bulkheads, jetties, and seawalls, among other things (310 Mass. Code Regs. 9.02).

DEP requires nonstructural alternatives to coastal or shoreline engineering structures, where feasible. Any seawall, bulkhead, or revetment must generally be located landward of the high water mark. Any breakwater or similar structure designed to dissipate or otherwise reduce wave energy or to interfere with current flow must not (1) cause or contribute to water stagnancy; (2) reduce the ability of adjacent water bodies to flush adequately; (3) cause or contribute to sedimentation problems in adjacent or nearby navigation channels, anchorages, or wetland resource areas; or (4) cause increased erosion to inland or coastal beaches, banks, or other wetland resource areas (310 Mass. Code Regs. 9.37).

DEP evaluates projects with coastal or shoreline engineering structures for compatibility in design, size, function, and materials with abutting structures. If DEP finds significant adverse effects on the project site or adjacent or downcoast and downstream areas after construction of any coastal or shoreline engineering structure, it may require the structure to be modified or removed (310 Mass. Code Regs. 9.37). Simplified procedures are available for certain projects consisting entirely of a small-scale structure (including seawalls) that is accessory to residential use or a noncommercial docking facility (310 Mass. Code Regs. 9.10).

Additional regulations may apply to coastal or shoreline engineering structures based on their specific location, such as on coastal beaches, coastal dunes, barrier beaches, or coastal banks (310 Mass. Code Regs. 10.27 – 10.30).

Massachusetts' Office of Coastal Zone Management (CZM) is the lead agency for implementing the state's coastal program by balancing the impact of human activity with the need to protect coastal resources in the state's coastal zone. It works with state agencies and project applicants during the coastal project permitting process to ensure adherence to the state's coastal policies.

The CZM [Policy Guide](#) is the official statement of the Massachusetts coastal program policies and legal authorities, providing four enforceable coastal hazard policy statements:

1. preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control by natural coastal landforms;
2. ensure that construction in water bodies and abutting land areas minimize interference with water circulation and sediment transport and flood control projects show no significant adverse effect at the project site or in adjacent or downcoast areas;
3. ensure that certain public works projects in the coastal zone will not worsen existing hazards or damage natural resources, be safe from flood and erosion damage, and not promote certain development in hazard-prone or barrier resource areas; and
4. prioritize hazardous coastal area acquisition with high conservation or recreation values and relocation of structures in these areas.

In explaining these policies, the guide states that nonstructural methods are preferred over structural ones, when feasible.

NEW JERSEY

The New Jersey Department of Environmental Protection generally requires [permits](#) for constructing or developing on or adjacent to navigable waterways ([N.J. Stat. Ann. § 12:5-3](#)), conducting regulated activities in tidal wetlands (e.g., erecting structures) ([N.J. Stat. Ann. § 13:9A-4](#)), and constructing developments in coastal areas ([N.J. Stat. Ann. § 13:19-5](#)).

The state's Coastal Zone Management rules used to review land use permit applications in coastal resources recognizes seawalls as one form of structural coastal engineering (shore protection structures). Nonstructural solutions are preferred over structural solutions for addressing shoreline erosion problems. Nonstructural solutions must be shown impracticable or infeasible before a structural solution is allowed. Feasibility depends on shoreline geometry and slope, sediment type, boat traffic, wind, and the amount of exposed land or water ([N.J. Admin. Code 7:7E-7.11](#)).

Constructing, expanding, or fortifying seawalls (or other structural shore protection structures) in the coastal zone is allowed if it: (1) is essential to protect water-dependent uses, beaches, or existing structures or infrastructure in danger from erosion; (2) will not cause significant adverse impacts on local shoreline sand supply; (3) will not create net adverse shoreline sand movement downdrift including erosion or shoaling; (4) will have a minimal negative impact on living marine and estuarine resources; and (5) is consistent with the state's Shore Protection Master Plan ([N.J. Admin. Code 7:7E-7.11](#)).

The state also maintains a Shore Protection Fund to fund shoreline protection projects associated with protecting, stabilizing, restoring, or maintaining the shore ([N.J. Stat. Ann. § 13:19-16.1](#)).

NEW YORK

Coastal management in New York is based in part on 44 [coastal policy](#) statements from its Coastline Management Program that state agencies must follow to the greatest extent possible. Among other things, these policies require (1) building or rebuilding an erosion protection structure only if it will control erosion for at least 30 years (Policy 13), (2) using nonstructural measures to minimize damage to natural resources and

property from flooding and erosion whenever possible (Policy 17), and (3) preserving and protecting tidal and freshwater wetlands and their benefits (Policy 44). Many of the policies are implemented through state agency programs and regulations.

Under New York's [Coastal Erosion Hazard Areas Act](#), it is state policy to restrict or prohibit activities or development in erosion hazard areas if it is necessary to (1) protect natural protective features or (2) prevent or reduce erosion impacts. [Regulations](#) adopted pursuant to the act outline a permitting system to regulate all proposed construction in erosion hazard areas. The state's Department of Environmental Conservation regulates constructing erosion protection structures such as jetties, bulkheads, and seawalls (N.Y. Comp. Codes R. & Regs. tit. 6, § 505.2(p)). A permit is required for constructing, modifying, or restoring an erosion protection structure, but not for routine maintenance (N.Y. Comp. Codes R. & Regs. tit. 6, § 505.9(a)).

In general, the erosion protection structures must (1) be designed and built to control long-term erosion and (2) have a reasonable probability of controlling erosion for at least 30 years (N.Y. Comp. Codes R. & Regs. tit. 6, § 505.9(b)). A permit application must include a long-term maintenance program and specifications for (1) maintenance of degradable materials and (2) periodic replacement of removable materials. Materials must be strong enough to withstand waves, weathering, and storm conditions (N.Y. Comp. Codes R. & Regs. tit. 6, § 505.9(c)).

Constructing, modifying, or restoring erosion protection structures must (1) not increase erosion and (2) minimize or prevent adverse effects to natural protective features, existing erosion protection structures, and natural resources such as significant fish and wildlife habitats. Variances from the requirements may be granted if certain criteria are met (N.Y. Comp. Codes R. & Regs. tit. 6, § 505.9(e)).

Similarly, the state's [Tidal Wetlands Act](#) prohibits conducting certain activities, including erecting structures or obstructions or any activity that will "substantially impair or alter the natural condition of the tidal area," in or adjacent to tidal wetlands without a permit. The tidal wetlands land use [regulations](#) specify that constructing a shoreline protection structure requires a permit, but ordinary maintenance and repair of existing structures may not. Excavation or placing fill below the mean high water mark or in tidal wetlands adjacent to certain navigable waters may also require a permit ([N.Y. ECL Law § 15-0505](#)).

NORTH CAROLINA

[North Carolina law](#) prohibits anyone from constructing a permanent erosion control structure in an ocean shoreline. The law defines (1) "erosion control structure" as a breakwater, bulkhead, groin, jetty, revetment, seawall, or any similar structure and (2) "ocean shoreline" to mean the Atlantic Ocean, the oceanfront beaches, and frontal dunes. The term "ocean shoreline" includes an ocean inlet and lands adjacent to an ocean inlet, but not that portion of any inlet and lands adjacent to the inlet that exhibits characteristics of estuarine shorelines.

By law, the North Carolina Sedimentation Control Commission cannot permit the construction of a temporary erosion control structure that consists of anything other than sandbags in an ocean shoreline. However, this does not include any permanent erosion control structure that:

1. is approved pursuant to an exception set out in a rule adopted by the Commission prior to July 1, 2003 or
2. was originally constructed prior to July 1, 1974 and that has since been in continuous use to protect an inlet that is maintained for navigation.

The law specifies that it does not limit the commission's authority to adopt rules to designate or protect areas of environmental concern, to govern the use of sandbags, or to govern the use of erosion control structures in estuarine shorelines.

Additionally, the law allows the commission to renew a permit for an erosion control structure issued pursuant to a variance and authorize the replacement of a permanent erosion control structure that it permitted under a variance granted before July 1, 1995 if it finds that:

1. the structure will not be enlarged beyond the dimensions set out in the original permit;
2. there is no practical alternative to replacing the structure that will provide the same or similar benefits; and
3. the replacement structure will comply with all applicable laws and rules, other than the rule or rules with respect to which the commission granted the variance, that are in effect at the time the structure is replaced ([N.C. Ann. Stat. § 113A-115.1](#)).

RHODE ISLAND

Rhode Island's [Coastal Resources Management Council](#) (CRMC) regulates and issues permits for work in coastal areas, including the construction "structural shoreline protection facilities" (e.g., seawalls) that control the erosion of coastal features. The regulated coastal zone generally extends from three miles offshore to 200 feet inland from any coastal feature.

Under the state's [Coastal Resources Management Program](#) (CRMP) (adopted by the CRMC), the applicable coastal construction requirements depend upon the water type involved and the policies for certain shoreline types (e.g., beach, wetland, and dune). For example, structural shoreline protection facilities are prohibited in Type 1 waters (e.g., conservation areas) unless they are necessary to protect a structure listed in the National Register of Historic Places (RI CRMP § 220). They are also prohibited on barriers (sand or gravel islands extending parallel to the coast and separated from the mainland by a coastal pond, tidal water body, or coastal wetland) (RI CRMP § 300.7). But structural shoreline protection may be allowed in Type 1 wetlands if the primary purpose is to enhance the site as a (1) conservation area or (2) natural buffer against storms (CRMP § 210.3).

It is CRMP policy to prefer nonstructural erosion control methods such as vegetation and beach nourishment over structural solutions. A property owner must exhaust all reasonable and practical alternatives (e.g., relocating the structure and nonstructural methods) when proposing structural shoreline protection methods (RI CRMP § 300.7).

Applicants for structural shoreline erosion control facilities must show, among other things, that (1) an erosion hazard exists from natural erosion and the proposed structure is likely to cure the problem; (2) nonstructural protection has not worked in the past or will not work in the future; (3) no practical or reasonable alternatives exist; and (4) the proposed structure will not increase erosion. But the CRMP prohibits using these structures for regaining property lost during historical erosion or storm events (RI CRMP § 300.7).

Reconstruction or repair of shoreline erosion structures that are at least 50% destroyed by wind, storm surge, or other coastal processes must obtain CRMC permission. Repair or maintenance of structural shoreline protection facilities that would expand seaward is generally prohibited. Allowed construction must abide by CRMP policies and standards (RI CRMP § 300.7).

SOUTH CAROLINA

The South Carolina Department of Health and Environmental Control has developed and instituted a comprehensive beach erosion control policy that identifies critical erosion areas; evaluates the benefits and costs of erosion control structures the state funds; and considers the dynamic littoral and offshore drift systems, sand dunes, and similar items. The department may issue permits for erosion control structures on the state's tidelands and coastal waters as it may deem most advantageous and according to law ([S.C. Code Ann. § 48-39-120](#)).

[South Carolina law](#) prohibits new erosion control structures (including seawalls) or devices seaward of the setback line, except to protect a public highway that existed on or before the law's passage. It also limits repairs to existing structures.

Under the law, erosion control structures or devices in existence when the act was passed must not be repaired or replaced if destroyed more than:

1. 80% above grade through June 30, 1995;
2. 60 2/3% above grade from July 1, 1995, through June 30, 2005;
and
3. 50% above grade after June 30, 2005.

Under the law, damage to seawalls and bulkheads is judged on the percent of the structure remaining intact at the time of damage assessment. Determining the degree of destruction is made on a lot by lot basis by reference to county tax maps.

The law also prohibits erosion control structures or devices from being enlarged, strengthened, or rebuilt. They may be maintained in their present condition if not destroyed more than the percent the law allows. Repairs must be made with materials similar to those of the structure or device being repaired ([S.C. Code Ann. § 48-39-290](#)).

Additionally, erosion control structures or devices determined to be destroyed more than the percent allowed under the law must be removed at the owner's expense.

VIRGINIA

Virginia's 1972 [Tidal Wetlands Act](#) established a state and local program that gives regulatory authority over tidal wetlands to the [Virginia Marine Resources Commission](#). The act established a Wetlands Zoning Ordinance and authorizes counties, cities, and towns to adopt it to regulate the use and development of local wetlands (including, for example, permitting for seawall repair). In adopting the ordinance, localities must create a wetlands board consisting of five or seven residents of the locality. Boards may grant, modify, or deny permit applications for shoreline alterations that lie within their jurisdiction. [The commission acts](#) as the permitting authority for localities that do not adopt the ordinance. The law also requires the commission to promulgate and periodically update guidelines with advice and assistance from the [Virginia Institute of Marine Science](#) (Va. Code § 28.2-1300 *et seq.*).

Based on recommendations from a [2010 Virginia Institute of Marine Science report](#), in 2011 the [legislature](#) enacted a law requiring Virginia's Marine Resources Commission, in cooperation with the Department of Conservation and Recreation, and with technical assistance from the Virginia Institute of Marine Science, to establish and implement a general permit regulation that authorizes and encourages the use of "living shorelines" as the preferred alternative for stabilizing tidal shorelines in the state. The law defines a "living shoreline" as a shoreline management practice that provides erosion control and water quality benefits; protects, restores, or enhances natural shoreline habitat; and maintains coastal processes through the strategic placement of plants, stone, sand fill, and other structural and organic materials.

Under this law, the commission, working with the same partners, must develop guidance to allow for consistent decision making across the various state and local entities involved with tidal shoreline management project permitting. The law requires the Virginia Institute of Marine Science to develop comprehensive coastal resource management guidance for local governments to foster the sustainability of shoreline resources by December 30, 2012 (Va. Code §§ [28.2-104.1](#) and [28.2-1100](#)).

The Commission is still developing the guidance.

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